

# CHERP Policy Brief

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The CRUSADE study revealed racial disparities in the treatment of certain heart attacks. While short-term outcomes were similar for white patients and black patients, the long term effects of these racial disparities are unknown.

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## Quality Initiative Sheds Light on Racial Disparities in Cardiovascular Care

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### Background

The most common type of heart attack is described as a non-ST-segment elevation acute coronary syndrome (NSTEMI/ACS). NSTEMI/ACS sends about 1.4 million people to U.S. emergency rooms per year. In 2002, the American College of Cardiology (ACC) and the American Heart Association (AHA) updated guidelines for the management of NSTEMI/ACS. Unfortunately, significant gaps between the guidelines and clinical practice persist. As documented in other areas of cardiovascular care, these gaps may be wider for minority patients.

In an effort to improve adherence to the recommended guidelines, investigators designed a national quality improvement initiative called “Can Rapid Risk Stratification of Unstable Angina Patients Suppress Adverse Outcomes with Early Implementation of the ACC/AHA Guidelines?” (CRUSADE) to promote evidence-based treatment of hospitalized patients with high-risk NSTEMI/ACS.

This CHERP Policy brief focuses on the CRUSADE team’s examination of the association of race with guideline-recommended strategies in the management and outcomes of patients with NSTEMI/ACS.

### Data

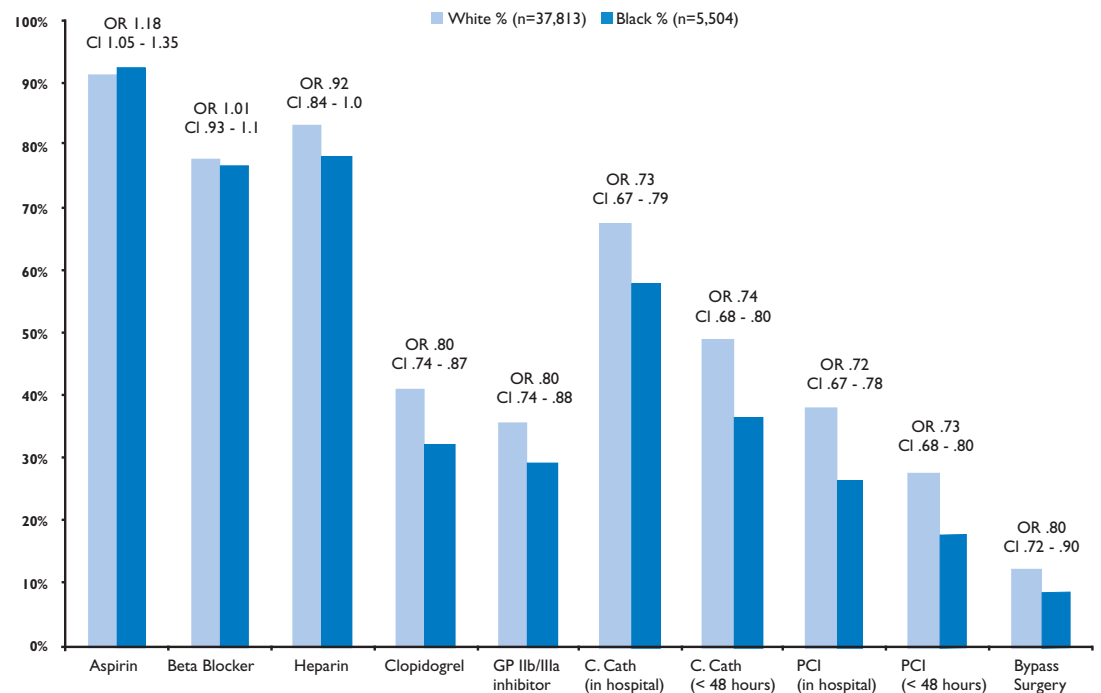
- These results concern 5,504 black and 37,813 white patients enrolled in CRUSADE between January 2, 2002 and February 13, 2003 from 400 US hospitals.
- The researchers obtained data from the medical records of patients at high risk for NSTEMI/ACS based upon ACC/AHA guidelines. Patients who were transferred into CRUSADE hospitals more than 24 hours after their cardiac events, those who transferred out of the CRUSADE hospital prior to completion of care, those with missing race data, or those coded with a race other than white or black were excluded from this analysis.

**Black patients were at least as likely as white patients to receive older, established therapies and less likely to receive certain newer and more resource-intensive treatments.**

## Results

- While in the hospital, black and white patients were equally likely to receive heparin and beta blockers and black patients were more likely to receive aspirin. These treatments are traditional mainstays of management. Black patients, however, were less likely than white patients to receive newer medications, specifically the newer anti-platelet drug clopidogrel and platelet glycoprotein IIb/IIIa receptor (GP IIb/IIIa) inhibitors.
- Black patients were less likely than white patients to undergo invasive procedures such as diagnostic cardiac catheterization, percutaneous coronary interventions (PCI) such as angioplasty and stent implantation, and coronary artery bypass surgery. See the bar graph below for detailed results.

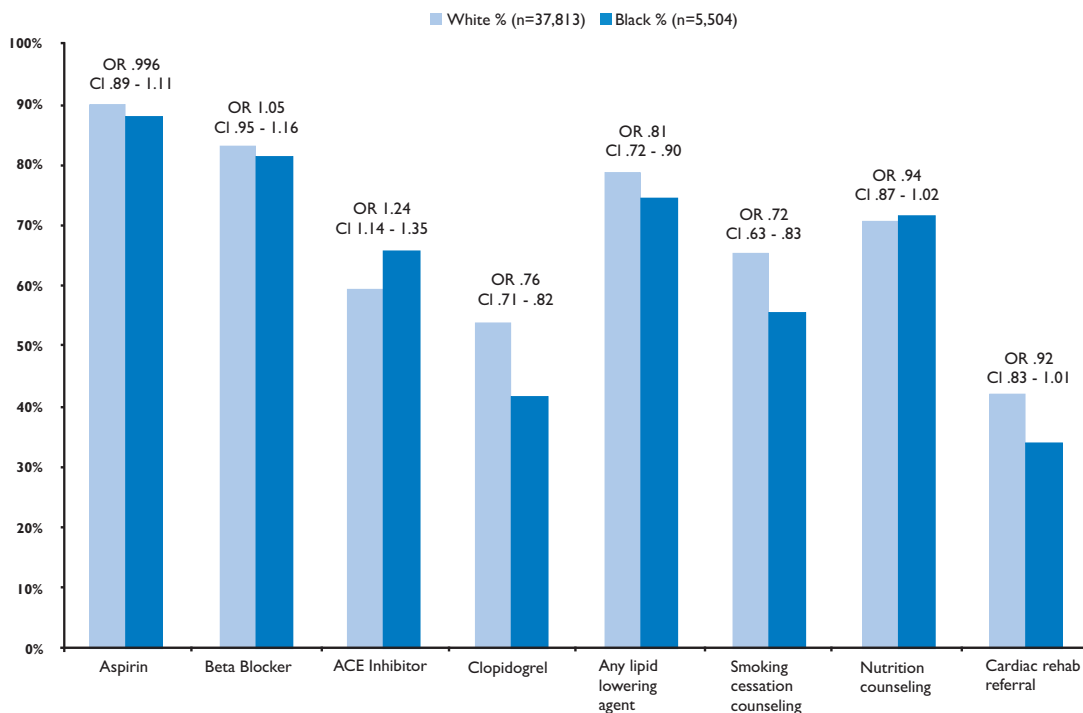
### In-hospital Guideline-Recommended Acute Medications and Procedures Received



\*Note: Adjusted odds ratios (OR) and 95% confidence intervals (CI) are shown at the top of the bars. C.Cath = Cardiac Catheterization

- At discharge, black patients and white patients were similarly likely to receive aspirin or beta blockers and black patients were more likely to receive angiotensin-converting enzyme (ACE) inhibitors. Black patients were less likely to receive GP IIb/IIIa inhibitors, clopidogrel, and lipid lowering agents at discharge. While white patients and black patients were similarly likely to receive nutritional counseling, black patients were less likely to receive smoking cessation counseling. See the bar chart on the next page for detailed results.
- Although the black and white patient populations differed along many demographic and clinical characteristics, the racial disparities observed in this study persisted even after statistical adjustment for these differences.
- The effect of race on NSTEMI ACS treatment utilization was consistent across CRUSADE medical centers, regardless of academic affiliation, facility type, or geographic location.

## Guideline-Recommended Discharge Medications and Recommendations Received



\*Note: Adjusted odds ratios (OR) and 95% confidence intervals (CI) are shown at the top of the bars.

- After adjusting for potential confounding variables, the investigators found that black patients had similar in-hospital mortality compared with white patients at high risk for NSTEMI/ACS. Black patients were less likely to develop cardiogenic shock and equally likely to receive red blood cell transfusions.

## Implications

Racial disparities in the prevention, diagnosis, treatment, and outcomes for cardiovascular disease and heart attack persist. Equitable clinical care for all cardiovascular patients is achievable and it is one step toward the amelioration of disparities in health. Guidelines offer one strategy for ensuring that patients receive equal and appropriate health care. However, guidelines will only ensure equity if they are followed.

These CRUSADE findings further confirm the existence of racial disparities in the treatment of heart attack. The findings that blacks have similar short-term survival, despite lower rates of invasive procedure use, illustrate the challenges of disparities research. Some studies of cardiovascular care have shown that more care is not always better, and what appear to be inequities in health care may not result in inequities in health (e.g., Petersen et al. in Medical Care Vol. 40 No.1). Other research has found that although lower use of cardiac catheterization and revascularization among black patients revealed no immediate impact, disparities in one-year survival rates later emerged (see Peterson et al. in JAMA Vol. 271 No. 15). We do not know if longer-term outcomes among the black patients enrolled in the CRUSADE study will be affected by the disparities observed in this research. Longer term studies are needed to determine whether there are delayed effects of receiving, or not receiving, currently recommended treatment.

As with all first-generation disparities research, this study using the CRUSADE quality improvement initiative serves to highlight areas that require attention and need improvement. Second and third generation research will tell us how these inequities persist and how to eliminate them successfully.

**Statistical adjustments for facility characteristics and differences in patient characteristics did not alter racial disparities in NSTEMI/ACS treatment received.**

**Short-term outcomes did not seem to be affected by racial disparities in treatment.**

This issue of the CHERP Policy Brief is based on the following publication: Sonel AF, Good CB, Mulgund J, Roe MT, Gibler WB, Smith SC Jr, Cohen MG, Pollack CV Jr, Ohman EM, Peterson ED, for the CRUSADE Investigators. *Racial variations in treatment and outcomes of black and white patients with high-risk non-ST-elevation acute coronary syndromes: insights from CRUSADE (Can Rapid Risk Stratification of Unstable Angina Patients Suppress Adverse Outcomes With Early Implementation of the ACC/AHA Guidelines?)*. Circulation. 2005 Mar 15;111(10):1225-32.

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